

Title (en)

SYSTEM AND METHOD FOR A QUANTITATIVE DETECTION OF A MOVEMENT

Title (de)

SYSTEM UND VERFAHREN ZUR QUANTITATIVEN ERFASSUNG EINER BEWEGUNG

Title (fr)

SYSTÈME ET PROCÉDÉ POUR LA DÉTECTION QUANTITATIVE D'UN MOUVEMENT

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Application

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Priority

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Abstract (en)

A system for a quantitative detection of a movement, the system comprising: a signal emitter 203 and two signal receivers 202, 204, positioned in series, along a first axis 212 parallel to a second axis of movement 211 of a reflective marker M, provided on a moving object, wherein the reflective marker M is configured to reflect the signal emitted by the emitter 203 towards the receivers 202, 204; wherein the two receivers 202, 204 have a signal reception coverage such that allows existence of a reflective marker M position, on the second axis 211, in which the reflective marker M of a given size is recognized simultaneously by the two receivers 202, 204. A distance between these parallel axes is D. A distance between the emitter 203 and the receiver 202 is D1E while a distance between the emitter 203 and the receiver 203 is D2E. A signal emitting angle of the emitter 203 is β while a signal reception angle of the receiver 202 is α and a signal reception angle of the receiver 204 is γ . In an embodiment, an integrated sensor comprises an emitter 203 typically being an infra-red LED as well as two receivers 202, 204 positioned on a single axis, typically a vertical axis. Another object of the present invention is a weightlifting system comprising a weight stack having at least one weight plate comprising the aforementioned system, wherein the reflective marker is affixed to at least one weight plate. When a weight plate, having said reflective marker thereon, has passed by a photo-transistor (receiver), it will register a change in the properties of received signal (light) from a given state to another state.

IPC 8 full level

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CPC (source: EP US)

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Citation (applicant)

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Citation (search report)

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EP3862056A1; WO2021155979A1

Designated contracting state (EPC)

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